



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/584,710	06/26/2006	Masao Otsuka	Q95056	3837
23373	7590	06/12/2008	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			BUIE, NICOLE M	
ART UNIT		PAPER NUMBER		
1796				
MAIL DATE		DELIVERY MODE		
06/12/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/584,710	<b>Applicant(s)</b> OTSUKA ET AL.
	<b>Examiner</b> NICOLE M. BUIE	<b>Art Unit</b> 1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 21 April 2008.
- 2a) This action is FINAL.      2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s)       is/are withdrawn from consideration.
- 5) Claim(s)       is/are allowed.
- 6) Claim(s) 1-7 is/are rejected.
- 7) Claim(s)       is/are objected to.
- 8) Claim(s)       are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on       is/are: a) accepted or b) objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No.      .
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO/SB/08)  
 Paper No(s)/Mail Date
- 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date
- 5) Notice of Informal Patent Application  
 6) Other:

**DETAILED ACTION**

*Response to Amendment*

The amendment filed 04/21/2008 has been entered. Claims 1-5 remain pending in the application.

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

**Claims 1-5** are rejected under 35 U.S.C. 103(a) as being unpatentable over Tang (WO 02/28925 A2) in view of Connor et al. (US 6,395,701).

**Regarding claims 1 and 2**, Tang discloses a process for preparing a fluoropolymer (Abstract) containing at least one kind of fluoroolefin (C2/L28-32), which comprises carrying out polymerization in the presence of a hydrocarbon surfactant (Abstract), wherein said surfactants are linear. While Tang does not disclose the specific surfactant recited in the instant claims, the reference is not limited to any specific examples of hydrocarbon surfactants.

Connor et al. discloses branched surfactants to be utilized in surfactant systems (Abstract). Connor et al. teaches a surfactant recited in instant claims (wherein R<sub>1</sub> and R<sub>2</sub> may be the same or different respectively and represent an alkyl group or an alkenyl group, R<sub>3</sub> is a hydrogen atom, an alkyl group or an alkenyl group, the total carbon number of R<sub>1</sub> to R<sub>3</sub> is 2 to 25, L<sup>-</sup> is a group represented by -SO<sub>3</sub><sup>-</sup>, -OSO<sub>3</sub><sup>-</sup>, -PO<sub>3</sub><sup>-</sup>, -OPO<sub>3</sub><sup>-</sup>, or -COO<sup>-</sup>, and M<sup>+</sup> is a monovalent cation) (C4/L59-C5/L21).

One of ordinary skill in the art at the time of invention would have understood that branched surfactants have been shown to have unusual properties, such as low melting points

relative to equal carbon number linear surfactants, and that such properties are beneficial for polymerization processes as taught by Tang. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to substitute the linear surfactant of Tang with the branched surfactant of Connor et al., for the purpose of making the processing easier and to improve the polymerization process.

**Regarding claim 3**, modified Tang discloses all the claim limitations as set forth above. Additionally Connor et al. further discloses the process wherein the total carbon number is 10 to 20 (C4/L63-C5/L21).

**Regarding claim 4**, modified Tang discloses all the claim limitations as set forth above. Additionally, Tang further discloses the process wherein the polymerization is polymerization for preparing a seed particle (C22/L8-9).

**Regarding claim 5**, modified Tang discloses all of the claim limitations as set forth above, and further discloses the process wherein the fluoroolefin is 1, 1-difluoroethylene (“vinylidene fluoride”, C2/L31).

#### *Response to Arguments*

Applicant's arguments filed 04/21/2008 have been fully considered but they are not persuasive. The following comments apply:

A) Applicant's argue that “the branched surfactant of the instant invention differs from the surfactant of Tang which is in the form of a linear chain” (P5/L11-13). Applicant's further argue “there is no disclosure in Connor et al. of carrying out polymerization in the presence of a fatty acid surfactant disclosed therein, let alone a process for preparing a fluoropolymer”. In

response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

B) Applicants argue that "Connor et al. does not teach or suggest that the surfactant described therein can be used in a process for preparing a fluoropolymer so as to achieve excellent production efficiency". Applicants further argue "there is nothing in the prior art that would lead one of ordinary skill to employ a surfactant of Connor et al., which reference has nothing to do with emulsion polymerization of fluoropolymers, in the method of Tang which calls for a hydrocarbon sulfonate ionic surfactant of a specific formula". In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Connor et al. and Tang are combinable as they are concerned with the same technical difficulty, namely, hydrocarbon surfactants.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

***Correspondence***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NICOLE M. BUIE whose telephone number is (571)270-3879. The examiner can normally be reached on Monday-Thursday with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on (571)272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/N. M. B./  
Examiner, Art Unit 1796  
6/6/2008

/James J. Seidleck /  
Supervisory Patent Examiner, Art Unit 1796